



Bridgelux® Gen 8 V10 Array Series

Product Data Sheet DS412



Introduction

V Series



The V Series™ LED Array products deliver high quality light in a compact and cost-effective solid-state lighting package. These chip on board (CoB) arrays can be efficiently driven up to three times the nominal drive current, enabling design flexibility not previously possible. These high flux density light sources are designed to support a wide range of high quality, low cost directional luminaires and replacement lamps for both interior and exterior commercial and residential applications.

The V10 LED Array is available in a variety of electrical, CCT, and CRI combinations providing substantial design flexibility and energy efficiency advantages.

Lighting system designs incorporating these LED arrays deliver increased system level efficacy and a longer service life. Typical applications include replacement lamps and task, accent, spot, track, wide area, security, wall packs and down lights.

Features

- Efficacy of 178 lm/W typical, 3000K 80 CRI
- Reliable operation at up to 3x nominal current, 30% increase in maximum lumens per LES size
- Wide selection of CCT options (2700K-6500K) with minimum 70, 80 and 90 CRI options
- Uniform high-quality illumination
- 2 and 3 SDCM binning options (2700K – 4000K)
- Forward voltage bin codes and backside marking
- Instant light with unlimited dimming
- 5-Year warranty

Benefits

- Enables high efficiency lighting systems and lower operating costs
- Supports the trend toward luminaire miniaturization and delivers enhanced optical control
- Design flexibility for a broad range of lighting applications
- Clean white light without pixelation
- Uniform consistent white light
- Design flexibility for multi-source applications
- Easy to use with daylight and motion sensors to increase energy savings
- Design with confidence



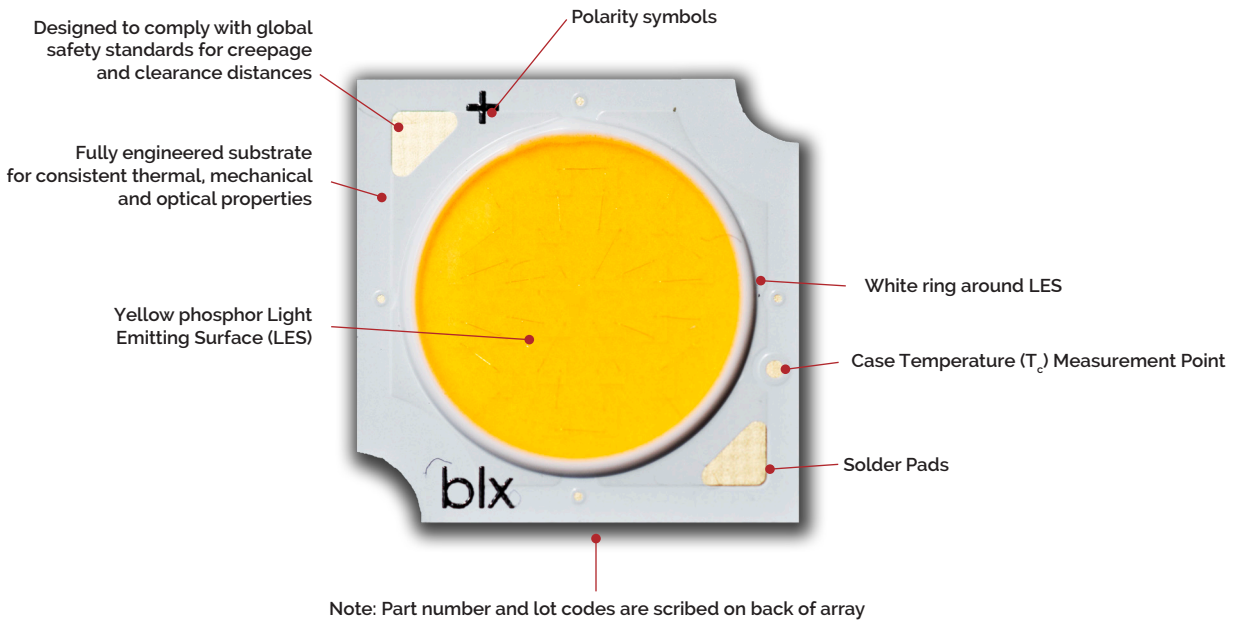
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Product Feature Map

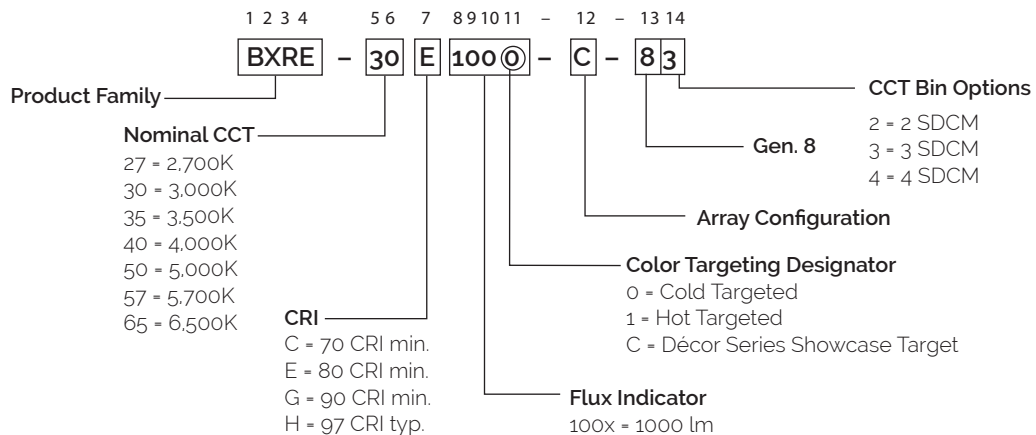
Bridgelux arrays are fully engineered devices that provide consistent thermal and optical performance on an engineered mechanical platform. The V Series arrays are the most compact chip-on-board devices across all of

Bridgelux's LED Array products. The arrays incorporate several features to simplify design integration and assembly. Please visit www.bridgelux.com for more information on the V Series family of products.



Product Nomenclature

The part number designation for Bridgelux V Series LED arrays is explained as follows:



Product Selection Guide

The following product configurations are available:

Table 1: Selection Guide, Pulsed Measurement Data ($T_j = T_c = 25^\circ\text{C}$)

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical Pulsed Flux ^{4,5,6} $T_c = 25^\circ\text{C}$ (lm)	Minimum Pulsed Flux ^{6,7} $T_c = 25^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-27E1000-A-8x	2700	80	300	1628	1433	33.5	10.1	162
BXRE-27E1000-B-8x	2700	80	200	1145	1008	34.2	6.8	167
BXRE-27E1000-C-8x	2700	80	300	1544	1359	30.7	9.2	168
BXRE-27G1000-A-8x	2700	90	300	1343	1182	33.5	10.1	134
BXRE-27G1000-B-8x	2700	90	200	945	832	34.2	6.8	138
BXRE-27G1000-C-8x	2700	90	300	1274	1121	30.7	9.2	138
BXRE-27G10Ho-A-8x	2700	90	300	1401	1233	33.5	10.1	139
BXRE-27G10Ho-B-8x	2700	90	200	986	867	34.2	6.8	144
BXRE-27G10Ho-C-8x	2700	90	300	1329	1170	30.7	9.2	144
BXRE-27H1000-A-8x	2700	97	300	1191	1048	33.5	10.1	118
BXRE-27H1000-B-8x	2700	97	200	838	737	34.2	6.8	122
BXRE-27H1000-C-8x	2700	97	300	1129	994	30.7	9.2	123
BXRE-30C1001-A-8x	3000	70	300	1811	1594	33.5	10.1	180
BXRE-30C1001-B-8x	3000	70	200	1274	1121	34.2	6.8	186
BXRE-30C1001-C-8x	3000	70	300	1718	1512	30.7	9.2	187
BXRE-30E1000-A-8x	3000	80	300	1730	1522	33.5	10.1	172
BXRE-30E1000-B-8x	3000	80	200	1217	1071	34.2	6.8	178
BXRE-30E1000-C-8x	3000	80	300	1641	1444	30.7	9.2	178
BXRE-30G1000-A-8x	3000	90	300	1404	1236	33.5	10.1	140
BXRE-30G1000-B-8x	3000	90	200	988	869	34.2	6.8	144
BXRE-30G1000-C-8x	3000	90	300	1329	1170	30.7	9.2	144
BXRE-30G10Ho-A-8x	3000	90	300	1471	1294	33.5	10.1	146
BXRE-30G10Ho-B-8x	3000	90	200	1034	910	34.2	6.8	151
BXRE-30G10Ho-C-8x	3000	90	300	1395	1227	30.7	9.2	151
BXRE-30H1000-A-8x	3000	97	300	1272	1119	33.5	10.1	127
BXRE-30H1000-B-8x	3000	97	200	895	787	34.2	6.8	131
BXRE-30H1000-C-8x	3000	97	300	1207	1062	30.7	9.2	131
BXRE-35E1000-A-8x	3500	80	300	1771	1558	33.5	10.1	176
BXRE-35E1000-B-8x	3500	80	200	1246	1096	34.2	6.8	182
BXRE-35E1000-C-8x	3500	80	300	1680	1478	30.7	9.2	182
BXRE-35G1000-A-8x	3500	90	300	1455	1281	33.5	10.1	145
BXRE-35G1000-B-8x	3500	90	200	1024	901	34.2	6.8	150
BXRE-35G1000-C-8x	3500	90	300	1380	1215	30.7	9.2	150

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
- CRI values are minimums for all products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on CRI and Rg values.
- Drive current is referred to as nominal drive current.
- Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) - T_c (case temperature) = 25°C .
- Typical performance values are provided as a reference only and are not a guarantee of performance.
- Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
- Minimum flux values at the nominal test current are guaranteed by 100% test.

Product Selection Guide

Table 1: Selection Guide, Pulsed Measurement Data ($T_j = T_c = 25^\circ\text{C}$) (Continued)

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical Pulsed Flux ^{4,5,6} $T_c = 25^\circ\text{C}$ (lm)	Minimum Pulsed Flux ^{6,7} $T_c = 25^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-40C1001-A-8x	4000	70	300	1862	1639	33.5	10.1	185
BXRE-40C1001-B-8x	4000	70	200	1310	1153	34.2	6.8	192
BXRE-40C1001-C-8x	4000	70	300	1766	1555	30.7	9.2	192
BXRE-40E1000-A-8x	4000	80	300	1781	1567	33.5	10.1	177
BXRE-40E1000-B-8x	4000	80	200	1253	1102	34.2	6.8	183
BXRE-40E1000-C-8x	4000	80	300	1689	1487	30.7	9.2	183
BXRE-40G1000-A-8x	4000	90	300	1486	1307	33.5	10.1	148
BXRE-40G1000-B-8x	4000	90	200	1045	920	34.2	6.8	153
BXRE-40G1000-C-8x	4000	90	300	1409	1240	30.7	9.2	153
BXRE-50C1001-A-8x	5000	70	300	1872	1648	33.5	10.1	186
BXRE-50C1001-B-8x	5000	70	200	1317	1159	34.2	6.8	193
BXRE-50C1001-C-8x	5000	70	300	1776	1563	30.7	9.2	193
BXRE-50E1001-A-8x	5000	80	300	1801	1585	33.5	10.1	179
BXRE-50E1001-B-8x	5000	80	200	1267	1115	34.2	6.8	185
BXRE-50E1001-C-8x	5000	80	300	1709	1504	30.7	9.2	186
BXRE-50G1001-A-8x	5000	90	300	1557	1370	33.5	10.1	155
BXRE-50G1001-B-8x	5000	90	200	1095	964	34.2	6.8	160
BXRE-50G1001-C-8x	5000	90	300	1477	1300	30.7	9.2	160
BXRE-57C1001-A-8x	5700	70	300	1822	1603	33.5	10.1	181
BXRE-57C1001-B-8x	5700	70	200	1281	1128	34.2	6.8	187
BXRE-57C1001-C-8x	5700	70	300	1728	1521	30.7	9.2	188
BXRE-57E1001-A-8x	5700	80	300	1730	1522	33.5	10.1	172
BXRE-57E1001-B-8x	5700	80	200	1217	1071	34.2	6.8	178
BXRE-57E1001-C-8x	5700	80	300	1641	1444	30.7	9.2	178
BXRE-65C1001-A-8x	6500	70	300	1822	1603	33.5	10.1	181
BXRE-65C1001-B-8x	6500	70	200	1281	1128	34.2	6.8	187
BXRE-65C1001-C-8x	6500	70	300	1728	1521	30.7	9.2	188
BXRE-65E1001-A-8x	6500	80	300	1750	1540	33.5	10.1	174
BXRE-65E1001-B-8x	6500	80	200	1231	1084	34.2	6.8	180
BXRE-65E1001-C-8x	6500	80	300	1660	1461	30.7	9.2	180

Notes for Table 1:

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
- CRI values are minimums for all products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on Rg values.
- Drive current is referred to as nominal drive current.
- Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C .
- Typical performance values are provided as a reference only and are not a guarantee of performance.
- Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
- Minimum flux values at the nominal test current are guaranteed by 100% test.

Product Selection Guide

Table 2: Selection Guide, Stabilized DC Performance ($T_c = 85^\circ\text{C}$)^{4,5}

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical DC Flux ^{4,5} $T_c = 85^\circ\text{C}$ (lm)	Minimum DC Flux ⁶ $T_c = 85^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-27E1000-A-8x	2700	80	300	1465	1290	32.9	9.9	148
BXRE-27E1000-B-8x	2700	80	200	1031	907	33.6	6.7	154
BXRE-27E1000-C-8x	2700	80	300	1390	1223	30.1	9.0	154
BXRE-27G1000-A-8x	2700	90	300	1209	1064	32.9	9.9	122
BXRE-27G1000-B-8x	2700	90	200	850	748	33.6	6.7	127
BXRE-27G1000-C-8x	2700	90	300	1147	1009	30.1	9.0	127
BXRE-27G10H0-A-8x	2700	90	300	1261	1110	32.9	9.9	128
BXRE-27G10H0-B-8x	2700	90	200	887	781	33.6	6.7	132
BXRE-27G10H0-C-8x	2700	90	300	1196	1053	30.1	9.0	132
BXRE-27H1000-A-8x	2700	97	300	1072	943	32.9	9.9	109
BXRE-27H1000-B-8x	2700	97	200	754	663	33.6	6.7	112
BXRE-27H1000-C-8x	2700	97	300	1016	894	30.1	9.0	112
BXRE-30C1001-A-8x	3000	70	300	1630	1435	32.9	9.9	165
BXRE-30C1001-B-8x	3000	70	200	1147	1009	33.6	6.7	171
BXRE-30C1001-C-8x	3000	70	300	1546	1361	30.1	9.0	171
BXRE-30E1000-A-8x	3000	80	300	1557	1370	32.9	9.9	158
BXRE-30E1000-B-8x	3000	80	200	1095	964	33.6	6.7	163
BXRE-30E1000-C-8x	3000	80	300	1477	1300	30.1	9.0	163
BXRE-30G1000-A-8x	3000	90	300	1264	1112	32.9	9.9	128
BXRE-30G1000-B-8x	3000	90	200	889	782	33.6	6.7	133
BXRE-30G1000-C-8x	3000	90	300	1196	1053	30.1	9.0	132
BXRE-30G10H0-A-8x	3000	90	300	1323	1165	32.9	9.9	134
BXRE-30G10H0-B-8x	3000	90	200	931	819	33.6	6.7	139
BXRE-30G10H0-C-8x	3000	90	300	1255	1105	30.1	9.0	139
BXRE-30H1000-A-8x	3000	97	300	1145	1007	32.9	9.9	116
BXRE-30H1000-B-8x	3000	97	200	805	709	33.6	6.7	120
BXRE-30H1000-C-8x	3000	97	300	1086	956	30.1	9.0	120
BXRE-35E1000-A-8x	3500	80	300	1594	1402	32.9	9.9	161
BXRE-35E1000-B-8x	3500	80	200	1121	987	33.6	6.7	167
BXRE-35E1000-C-8x	3500	80	300	1512	1330	30.1	9.0	167
BXRE-35G1000-A-8x	3500	90	300	1310	1153	32.9	9.9	133
BXRE-35G1000-B-8x	3500	90	200	921	811	33.6	6.7	137
BXRE-35G1000-C-8x	3500	90	300	1242	1093	30.1	9.0	137
BXRE-40C1001-A-8x	4000	70	300	1676	1475	32.9	9.9	170
BXRE-40C1001-B-8x	4000	70	200	1179	1038	33.6	6.7	176
BXRE-40C1001-C-8x	4000	70	300	1590	1399	30.1	9.0	176

Notes for Table 2

- Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
- CRI values are minimums for all products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on Rg values.
- Drive current is referred to as nominal drive current.
- Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
- Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C . Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
- Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.

Product Selection Guide

Table 2: Selection Guide, Stabilized DC Performance ($T_c = 85^\circ\text{C}$)^{4,5}

Part Number	Nominal CCT ¹ (K)	CRI ²	Nominal Drive Current ³ (mA)	Typical DC Flux ^{4,5} $T_c = 85^\circ\text{C}$ (lm)	Minimum DC Flux ⁶ $T_c = 85^\circ\text{C}$ (lm)	Typical V_f (V)	Typical Power (W)	Typical Efficacy (lm/W)
BXRE-40E1000-A-8x	4000	80	300	1603	1410	32.9	9.9	162
BXRE-40E1000-B-8x	4000	80	200	1128	992	33.6	6.7	168
BXRE-40E1000-C-8x	4000	80	300	1520	1338	30.1	9.0	168
BXRE-40G1000-A-8x	4000	90	300	1337	1177	32.9	9.9	135
BXRE-40G1000-B-8x	4000	90	200	941	828	33.6	6.7	140
BXRE-40G1000-C-8x	4000	90	300	1268	1116	30.1	9.0	140
BXRE-50C1001-A-8x	5000	70	300	1685	1483	32.9	9.9	171
BXRE-50C1001-B-8x	5000	70	200	1186	1043	33.6	6.7	177
BXRE-50C1001-C-8x	5000	70	300	1599	1407	30.1	9.0	177
BXRE-50E1001-A-8x	5000	80	300	1621	1427	32.9	9.9	164
BXRE-50E1001-B-8x	5000	80	200	1140	1004	33.6	6.7	170
BXRE-50E1001-C-8x	5000	80	300	1538	1353	30.1	9.0	170
BXRE-50G1001-A-8x	5000	90	300	1401	1233	32.9	9.9	142
BXRE-50G1001-B-8x	5000	90	200	986	867	33.6	6.7	147
BXRE-50G1001-C-8x	5000	90	300	1329	1170	30.1	9.0	147
BXRE-57C1001-A-8x	5700	70	300	1639	1443	32.9	9.9	166
BXRE-57C1001-B-8x	5700	70	200	1153	1015	33.6	6.7	172
BXRE-57C1001-C-8x	5700	70	300	1555	1368	30.1	9.0	172
BXRE-57E1001-A-8x	5700	80	300	1557	1370	32.9	9.9	158
BXRE-57E1001-B-8x	5700	80	200	1095	964	33.6	6.7	163
BXRE-57E1001-C-8x	5700	80	300	1477	1300	30.1	9.0	163
BXRE-65C1001-A-8x	6500	70	300	1639	1443	32.9	9.9	166
BXRE-65C1001-B-8x	6500	70	200	1153	1015	33.6	6.7	172
BXRE-65C1001-C-8x	6500	70	300	1555	1368	30.1	9.0	172
BXRE-65E1001-A-8x	6500	80	300	1575	1386	32.9	9.9	160
BXRE-65E1001-B-8x	6500	80	200	1108	975	33.6	6.7	165
BXRE-65E1001-C-8x	6500	80	300	1494	1315	30.1	9.0	165

Notes for Table 2:

1. Nominal CCT as defined by ANSI C78.377-2011. Products with a CCT of 5000K-6500K are hot targeted to $T_c = 85^\circ\text{C}$.
2. CRI values are minimums for all products. Minimum Rg value for 80 CRI products is 0, the minimum Rg values for 90 CRI products is 50, the minimum Rg values for 97 CRI products is 93. Bridgelux maintains a ± 3 tolerance on Rg values.
3. Drive current is referred to as nominal drive current.
4. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
5. Typical performance is estimated based on operation under DC (direct current) with LED array mounted onto a heat sink with thermal interface material and the case temperature maintained at 85°C . Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.
6. Minimum flux values at elevated temperatures are provided for reference only and are not guaranteed by 100% production testing. Based on Bridgelux test setup, values may vary depending on the thermal design of the luminaire and/or the exposed environment to which the product is subjected.

Performance at Commonly Used Drive Currents

V Series LED arrays are tested to the specifications shown using the nominal drive currents in Table 1. V Series LED Arrays may also be driven at other drive currents dependent on specific application design requirements. The performance at any drive current can be derived from the current vs. voltage characteristics shown in Figures 1 & 2 and the flux vs. current characteristics shown in Figures 3 & 4. The performance at commonly used drive currents is summarized in Table 3.

Table 3: Product Performance at Commonly Used Drive Currents

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-27E1000-A-8x	80	150	32.5	4.9	853	768	175
		225	33.0	7.4	1245	1120	168
		300	33.5	10.1	1628	1465	162
		360	33.9	12.2	1929	1736	158
		600	35.3	21.2	3082	2774	145
		960	37.2	35.7	4657	4191	130
BXRE-27E1000-B-8x	80	100	32.9	3.3	597	537	181
		150	33.6	5.0	872	785	173
		200	34.2	6.8	1145	1031	168
		270	35.0	9.5	1500	1350	159
		400	36.5	14.6	2131	1918	146
		500	37.5	18.7	2581	2323	138
BXRE-27E1000-C-8x	80	150	29.8	4.5	809	728	181
		225	30.3	6.8	1181	1063	173
		300	30.7	9.2	1544	1390	168
		360	31.1	11.2	1830	1647	164
		600	32.4	19.4	2924	2631	150
		1000	34.3	34.3	4572	4115	133
BXRE-27G1000-A-8x	90	150	32.5	4.9	704	633	144
		225	33.0	7.4	1027	924	138
		300	33.5	10.1	1343	1209	134
		360	33.9	12.2	1592	1433	130
		600	35.3	21.2	2543	2288	120
		960	37.2	35.7	3842	3458	107
BXRE-27G1000-B-8x	90	100	32.9	3.3	493	443	150
		150	33.6	5.0	719	647	143
		200	34.2	6.8	945	850	138
		270	35.0	9.5	1238	1114	131
		400	36.5	14.6	1758	1582	120
		500	37.5	18.7	2129	1917	114
BXRE-27G1000-C-8x	90	150	29.8	4.5	668	601	149
		225	30.3	6.8	974	877	143
		300	30.7	9.2	1274	1147	138
		360	31.1	11.2	1510	1359	135
		600	32.4	19.4	2412	2171	124
		1000	34.3	34.3	3772	3395	110

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-27G10H0-A-8x	90	150	32.5	4.9	734	661	151
		225	33.0	7.4	1071	964	144
		300	33.5	10.1	1401	1261	139
		360	33.9	12.2	1660	1494	136
		600	35.3	21.2	2653	2387	125
		960	37.2	35.7	4008	3607	112
BXRE-27G10H0-B-8x	90	100	32.9	3.3	514	462	156
		150	33.6	5.0	750	675	149
		200	34.2	6.8	986	887	144
		270	35.0	9.5	1291	1162	137
		400	36.5	14.6	1834	1651	126
		500	37.5	18.7	2221	1999	118
BXRE-27G10H0-C-8x	90	150	29.8	4.5	696	627	156
		225	30.3	6.8	1016	914	149
		300	30.7	9.2	1329	1196	144
		360	31.1	11.2	1575	1417	141
		600	32.4	19.4	2516	2264	129
		1000	34.3	34.3	3935	3541	115
BXRE-27H1000-A-8x	97	150	32.5	4.9	624	561	128
		225	33.0	7.4	910	819	123
		300	33.5	10.1	1191	1072	118
		360	33.9	12.2	1411	1270	116
		600	35.3	21.2	2254	2028	106
		960	37.2	35.7	3405	3065	95
BXRE-27H1000-B-8x	97	100	32.9	3.3	437	393	133
		150	33.6	5.0	638	574	127
		200	34.2	6.8	838	754	122
		270	35.0	9.5	1097	987	116
		400	36.5	14.6	1558	1403	107
		500	37.5	18.7	1887	1699	101
BXRE-27H1000-C-8x	97	150	29.8	4.5	592	532	132
		225	30.3	6.8	863	777	127
		300	30.7	9.2	1129	1016	122
		360	31.1	11.2	1338	1204	120
		600	32.4	19.4	2138	1924	110
		1000	34.3	34.3	3343	3009	97
BXRE-30C1001-A-8x	70	150	32.5	4.9	949	854	195
		225	33.0	7.4	1385	1246	186
		300	33.5	10.1	1811	1630	180
		360	33.9	12.2	2146	1932	176
		600	35.3	21.2	3429	3086	162
		960	37.2	35.7	5180	4662	145

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-30C1001-B-8x	70	100	32.9	3.3	664	598	202
		150	33.6	5.0	970	873	193
		200	34.2	6.8	1274	1147	186
		270	35.0	9.5	1669	1502	176
		400	36.5	14.6	2371	2134	162
		500	37.5	18.7	2872	2584	153
BXRE-30C1001-C-8x	70	150	29.8	4.5	900	810	201
		225	30.3	6.8	1313	1182	193
		300	30.7	9.2	1718	1546	186
		360	31.1	11.2	2036	1832	182
		600	32.4	19.4	3252	2927	167
		1000	34.3	34.3	5086	4578	148
BXRE-30E1000-A-8x	80	150	32.5	4.9	906	816	186
		225	33.0	7.4	1322	1190	178
		300	33.5	10.1	1730	1557	172
		360	33.9	12.2	2050	1845	168
		600	35.3	21.2	3275	2947	155
		960	37.2	35.7	4948	4453	138
BXRE-30E1000-B-8x	80	100	32.9	3.3	634	571	193
		150	33.6	5.0	926	834	184
		200	34.2	6.8	1217	1095	178
		270	35.0	9.5	1594	1435	169
		400	36.5	14.6	2264	2038	155
		500	37.5	18.7	2742	2468	146
BXRE-30E1000-C-8x	80	150	29.8	4.5	860	774	192
		225	30.3	6.8	1254	1129	184
		300	30.7	9.2	1641	1477	178
		360	31.1	11.2	1944	1750	174
		600	32.4	19.4	3106	2796	160
		1000	34.3	34.3	4858	4372	141
BXRE-30G1000-A-8x	90	150	32.5	4.9	736	662	151
		225	33.0	7.4	1073	966	145
		300	33.5	10.1	1404	1264	140
		360	33.9	12.2	1664	1498	136
		600	35.3	21.2	2658	2392	125
		960	37.2	35.7	4016	3615	112
BXRE-30G1000-B-8x	90	100	32.9	3.3	515	463	157
		150	33.6	5.0	752	677	149
		200	34.2	6.8	988	889	144
		270	35.0	9.5	1294	1165	137
		400	36.5	14.6	1838	1654	126
		500	37.5	18.7	2226	2004	119

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V_f $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux ² $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux ³ $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-30G1000-C-8x	90	150	29.8	4.5	696	627	156
		225	30.3	6.8	1016	914	149
		300	30.7	9.2	1329	1196	144
		360	31.1	11.2	1575	1417	141
		600	32.4	19.4	2516	2264	129
		1000	34.3	34.3	3935	3541	115
BXRE-30G10H0-A-8x	90	150	32.5	4.9	770	693	158
		225	33.0	7.4	1124	1012	151
		300	33.5	10.1	1471	1323	146
		360	33.9	12.2	1742	1568	143
		600	35.3	21.2	2784	2505	131
		960	37.2	35.7	4205	3785	118
BXRE-30G10H0-B-8x	90	100	32.9	3.3	539	485	164
		150	33.6	5.0	787	709	156
		200	34.2	6.8	1034	931	151
		270	35.0	9.5	1355	1219	143
		400	36.5	14.6	1925	1732	132
		500	37.5	18.7	2331	2098	124
BXRE-30G10H0-C-8x	90	150	29.8	4.5	731	658	163
		225	30.3	6.8	1066	960	156
		300	30.7	9.2	1395	1255	151
		360	31.1	11.2	1653	1487	148
		600	32.4	19.4	2640	2376	136
		1000	34.3	34.3	4129	3716	120
BXRE-30H1000-A-8x	97	150	32.5	4.9	666	600	137
		225	33.0	7.4	972	875	131
		300	33.5	10.1	1272	1145	127
		360	33.9	12.2	1507	1357	124
		600	35.3	21.2	2408	2167	114
		960	37.2	35.7	3638	3274	102
BXRE-30H1000-B-8x	97	100	32.9	3.3	466	420	142
		150	33.6	5.0	681	613	135
		200	34.2	6.8	895	805	131
		270	35.0	9.5	1172	1055	124
		400	36.5	14.6	1665	1498	114
		500	37.5	18.7	2017	1815	108
BXRE-30H1000-C-8x	97	150	29.8	4.5	632	569	141
		225	30.3	6.8	922	830	135
		300	30.7	9.2	1207	1086	131
		360	31.1	11.2	1430	1287	128
		600	32.4	19.4	2284	2056	117
		1000	34.3	34.3	3572	3215	104

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-35E1000-A-8x	80	150	32.5	4.9	928	835	190
		225	33.0	7.4	1354	1218	182
		300	33.5	10.1	1771	1594	176
		360	33.9	12.2	2098	1888	172
		600	35.3	21.2	3352	3017	158
		960	37.2	35.7	5064	4558	142
BXRE-35E1000-B-8x	80	100	32.9	3.3	649	584	197
		150	33.6	5.0	948	853	188
		200	34.2	6.8	1246	1121	182
		270	35.0	9.5	1632	1468	172
		400	36.5	14.6	2318	2086	159
		500	37.5	18.7	2807	2526	150
BXRE-35E1000-C-8x	80	150	29.8	4.5	880	792	197
		225	30.3	6.8	1284	1156	188
		300	30.7	9.2	1680	1512	182
		360	31.1	11.2	1990	1791	178
		600	32.4	19.4	3179	2861	164
		1000	34.3	34.3	4972	4475	145
BXRE-35G1000-A-8x	90	150	32.5	4.9	762	686	156
		225	33.0	7.4	1112	1001	150
		300	33.5	10.1	1455	1310	145
		360	33.9	12.2	1724	1552	141
		600	35.3	21.2	2755	2479	130
		960	37.2	35.7	4162	3746	116
BXRE-35G1000-B-8x	90	100	32.9	3.3	534	480	162
		150	33.6	5.0	779	701	155
		200	34.2	6.8	1024	921	150
		270	35.0	9.5	1341	1207	142
		400	36.5	14.6	1905	1714	131
		500	37.5	18.7	2307	2076	123
BXRE-35G1000-C-8x	90	150	29.8	4.5	723	651	162
		225	30.3	6.8	1055	950	155
		300	30.7	9.2	1380	1242	150
		360	31.1	11.2	1636	1472	146
		600	32.4	19.4	2613	2352	134
		1000	34.3	34.3	4086	3678	119
BXRE-40C1001-A-8x	70	150	32.5	4.9	976	878	200
		225	33.0	7.4	1424	1281	192
		300	33.5	10.1	1862	1676	185
		360	33.9	12.2	2207	1986	181
		600	35.3	21.2	3525	3173	166
		960	37.2	35.7	5326	4793	149

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-40C1001-B-8x	70	100	32.9	3.3	683	615	208
		150	33.6	5.0	997	898	198
		200	34.2	6.8	1310	1179	192
		270	35.0	9.5	1716	1544	181
		400	36.5	14.6	2437	2194	167
		500	37.5	18.7	2952	2657	157
BXRE-40C1001-C-8x	70	150	29.8	4.5	925	833	207
		225	30.3	6.8	1350	1215	198
		300	30.7	9.2	1766	1590	192
		360	31.1	11.2	2093	1884	187
		600	32.4	19.4	3344	3009	172
		1000	34.3	34.3	5229	4706	152
BXRE-40E1000-A-8x	80	150	32.5	4.9	933	840	191
		225	33.0	7.4	1361	1225	183
		300	33.5	10.1	1781	1603	177
		360	33.9	12.2	2110	1899	173
		600	35.3	21.2	3371	3034	159
		960	37.2	35.7	5093	4584	142
BXRE-40E1000-B-8x	80	100	32.9	3.3	653	588	198
		150	33.6	5.0	954	858	189
		200	34.2	6.8	1253	1128	183
		270	35.0	9.5	1641	1477	173
		400	36.5	14.6	2331	2098	160
		500	37.5	18.7	2823	2541	151
BXRE-40E1000-C-8x	80	150	29.8	4.5	885	796	198
		225	30.3	6.8	1291	1162	189
		300	30.7	9.2	1689	1520	183
		360	31.1	11.2	2002	1801	179
		600	32.4	19.4	3198	2878	164
		1000	34.3	34.3	5001	4501	146
BXRE-40G1000-A-8x	90	150	32.5	4.9	778	701	160
		225	33.0	7.4	1136	1022	153
		300	33.5	10.1	1486	1337	148
		360	33.9	12.2	1761	1584	144
		600	35.3	21.2	2812	2531	133
		960	37.2	35.7	4249	3824	119
BXRE-40G1000-B-8x	90	100	32.9	3.3	545	490	166
		150	33.6	5.0	796	716	158
		200	34.2	6.8	1045	941	153
		270	35.0	9.5	1369	1232	145
		400	36.5	14.6	1945	1750	133
		500	37.5	18.7	2355	2120	126

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-40G1000-C-8x	90	150	29.8	4.5	738	664	165
		225	30.3	6.8	1077	970	158
		300	30.7	9.2	1409	1268	153
		360	31.1	11.2	1670	1503	149
		600	32.4	19.4	2668	2401	137
		1000	34.3	34.3	4172	3755	121
BXRE-50C1001-A-8x	70	150	32.5	4.9	981	883	201
		225	33.0	7.4	1431	1288	193
		300	33.5	10.1	1872	1685	186
		360	33.9	12.2	2219	1997	182
		600	35.3	21.2	3544	3190	167
		960	37.2	35.7	5355	4820	150
BXRE-50C1001-B-8x	70	100	32.9	3.3	687	618	209
		150	33.6	5.0	1003	902	199
		200	34.2	6.8	1317	1186	193
		270	35.0	9.5	1725	1553	182
		400	36.5	14.6	2451	2206	168
		500	37.5	18.7	2968	2671	158
BXRE-50C1001-C-8x	70	150	29.8	4.5	930	837	208
		225	30.3	6.8	1358	1222	199
		300	30.7	9.2	1776	1599	193
		360	31.1	11.2	2105	1894	188
		600	32.4	19.4	3362	3026	173
		1000	34.3	34.3	5258	4732	153
BXRE-50E1001-A-8x	80	150	32.5	4.9	944	849	193
		225	33.0	7.4	1377	1239	185
		300	33.5	10.1	1801	1621	179
		360	33.9	12.2	2134	1921	175
		600	35.3	21.2	3410	3069	161
		960	37.2	35.7	5151	4636	144
BXRE-50E1001-B-8x	80	100	32.9	3.3	661	594	201
		150	33.6	5.0	965	868	192
		200	34.2	6.8	1267	1140	185
		270	35.0	9.5	1660	1494	175
		400	36.5	14.6	2358	2122	162
		500	37.5	18.7	2855	2570	152
BXRE-50E1001-C-8x	80	150	29.8	4.5	895	806	200
		225	30.3	6.8	1306	1175	192
		300	30.7	9.2	1709	1538	185
		360	31.1	11.2	2025	1822	181
		600	32.4	19.4	3234	2911	166
		1000	34.3	34.3	5058	4552	147

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-50G1001-A-8x	90	150	32.5	4.9	816	734	167
		225	33.0	7.4	1190	1071	160
		300	33.5	10.1	1557	1401	155
		360	33.9	12.2	1845	1660	151
		600	35.3	21.2	2947	2653	139
		960	37.2	35.7	4453	4008	125
BXRE-50G1001-B-8x	90	100	32.9	3.3	571	514	174
		150	33.6	5.0	834	750	166
		200	34.2	6.8	1095	986	160
		270	35.0	9.5	1435	1291	152
		400	36.5	14.6	2038	1834	140
		500	37.5	18.7	2468	2221	132
BXRE-50G1001-C-8x	90	150	29.8	4.5	774	696	173
		225	30.3	6.8	1129	1016	166
		300	30.7	9.2	1477	1329	160
		360	31.1	11.2	1750	1575	156
		600	32.4	19.4	2796	2516	144
		1000	34.3	34.3	4372	3935	127
BXRE-57C1001-A-8x	70	150	32.5	4.9	954	859	196
		225	33.0	7.4	1392	1253	187
		300	33.5	10.1	1822	1639	181
		360	33.9	12.2	2158	1943	177
		600	35.3	21.2	3448	3103	163
		960	37.2	35.7	5210	4689	146
BXRE-57C1001-B-8x	70	100	32.9	3.3	668	601	203
		150	33.6	5.0	975	878	194
		200	34.2	6.8	1281	1153	187
		270	35.0	9.5	1678	1511	177
		400	36.5	14.6	2384	2146	163
		500	37.5	18.7	2888	2599	154
BXRE-57C1001-C-8x	70	150	29.8	4.5	905	815	202
		225	30.3	6.8	1321	1189	194
		300	30.7	9.2	1728	1555	187
		360	31.1	11.2	2047	1843	183
		600	32.4	19.4	3271	2944	168
		1000	34.3	34.3	5115	4604	149
BXRE-57E1001-A-8x	80	150	32.5	4.9	906	816	186
		225	33.0	7.4	1322	1190	178
		300	33.5	10.1	1730	1557	172
		360	33.9	12.2	2050	1845	168
		600	35.3	21.2	3275	2947	155
		960	37.2	35.7	4948	4453	138

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V _f T _c = 25°C (V)	Typical Power T _c = 25°C (W)	Typical Flux ² T _c = 25°C (lm)	Typical DC Flux ³ T _c = 85°C (lm)	Typical Efficacy T _c = 25°C (lm/W)
BXRE-57E1001-B-8x	80	100	32.9	3.3	634	571	193
		150	33.6	5.0	926	834	184
		200	34.2	6.8	1217	1095	178
		270	35.0	9.5	1594	1435	169
		400	36.5	14.6	2264	2038	155
		500	37.5	18.7	2742	2468	146
BXRE-57E1001-C-8x	80	150	29.8	4.5	860	774	192
		225	30.3	6.8	1254	1129	184
		300	30.7	9.2	1641	1477	178
		360	31.1	11.2	1944	1750	174
		600	32.4	19.4	3106	2796	160
		1000	34.3	34.3	4858	4372	141
BXRE-65C1001-A-8x	70	150	32.5	4.9	954	859	196
		225	33.0	7.4	1392	1253	187
		300	33.5	10.1	1822	1639	181
		360	33.9	12.2	2158	1943	177
		600	35.3	21.2	3448	3103	163
		960	37.2	35.7	5210	4689	146
BXRE-65C1001-B-8x	70	100	32.9	3.3	668	601	203
		150	33.6	5.0	975	878	194
		200	34.2	6.8	1281	1153	187
		270	35.0	9.5	1678	1511	177
		400	36.5	14.6	2384	2146	163
		500	37.5	18.7	2888	2599	154
BXRE-65C1001-C-8x	70	150	29.8	4.5	905	815	202
		225	30.3	6.8	1321	1189	194
		300	30.7	9.2	1728	1555	187
		360	31.1	11.2	2047	1843	183
		600	32.4	19.4	3271	2944	168
		1000	34.3	34.3	5115	4604	149
BXRE-65E1001-A-8x	80	150	32.5	4.9	917	825	188
		225	33.0	7.4	1338	1204	180
		300	33.5	10.1	1750	1575	174
		360	33.9	12.2	2074	1867	170
		600	35.3	21.2	3313	2982	156
		960	37.2	35.7	5006	4505	140
BXRE-65E1001-B-8x	80	100	32.9	3.3	642	578	195
		150	33.6	5.0	937	844	186
		200	34.2	6.8	1231	1108	180
		270	35.0	9.5	1613	1452	171
		400	36.5	14.6	2291	2062	157
		500	37.5	18.7	2775	2497	148

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a ± 7% tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Performance at Commonly Used Drive Currents

Table 3: Product Performance at Commonly Used Drive Currents (Continued)

Part Number	CRI	Drive Current ¹ (mA)	Typical V_f $T_c = 25^\circ\text{C}$ (V)	Typical Power $T_c = 25^\circ\text{C}$ (W)	Typical Flux ² $T_c = 25^\circ\text{C}$ (lm)	Typical DC Flux ³ $T_c = 85^\circ\text{C}$ (lm)	Typical Efficacy $T_c = 25^\circ\text{C}$ (lm/W)
BXRE-65E1001-C-8x	80	150	29.8	4.5	870	783	194
		225	30.3	6.8	1269	1142	186
		300	30.7	9.2	1660	1494	180
		360	31.1	11.2	1967	1771	176
		600	32.4	19.4	3143	2829	162
		1000	34.3	34.3	4915	4424	143

Notes for Table 3:

1. Alternate drive currents in Table 3 are provided for reference only and are not a guarantee of performance.
2. Bridgelux maintains a $\pm 7\%$ tolerance on flux measurements.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.

Electrical Characteristics

Table 4: Electrical Characteristics

Part Number	Drive Current (mA)	Forward Voltage Pulsed, $T_c = 25^\circ\text{C}$ (V) ^{1, 2, 3, 8}			Typical Coefficient of Forward Voltage ⁴ $\Delta V_f / \Delta T_c$ (mV/ $^\circ\text{C}$)	Typical Thermal Resistance Junction to Case ^{5,6} R_{j-c} ($^\circ\text{C}/\text{W}$)	Driver Selection Voltages ⁷ (V)	
		Minimum	Typical	Maximum			V_f Min. Hot $T_c = 105^\circ\text{C}$ (V)	V_f Max. Cold $T_c = -40^\circ\text{C}$ (V)
BXRE-xxx100x-A-8x	300	31.0	33.5	36.0	-10.80	0.41	30.1	36.7
	960	34.4	37.2	40.0	-12.00	0.60	33.5	40.8
BXRE-xxx100x-B-8x	200	31.6	34.2	36.8	-11.03	0.62	30.8	37.5
	500	34.7	37.5	40.3	-12.10	0.95	33.7	41.1
BXRE-xxx100x-C-8x	300	28.4	30.7	33.0	-9.90	0.38	27.6	33.6
	1000	32.4	35	37.6	-11.29	0.55	31.5	38.4

Notes for Table 4:

- Parts are tested in pulsed conditions. $T_c = 25^\circ\text{C}$. Pulse width is 10ms.
- Voltage minimum and maximum are provided for reference only and are not a guarantee of performance.
- Bridgelux maintains a tester tolerance of $\pm 0.10\text{V}$ on forward voltage measurements.
- Typical coefficient of forward voltage tolerance is $\pm 0.1\text{mV}$ for nominal current.
- Thermal resistance values are based from test data of a 3000K 80 CRI product.
- Thermal resistance value was calculated using total electrical input power; optical power was not subtracted from input power. The thermal interface material used during testing is not included in the thermal resistance value.
- V_f min hot and max cold values are provided as reference only and are not guaranteed by test. These values are provided to aid in driver design and selection over the operating range of the product.
- This product has been designed and manufactured per IEC 62031:2018 This product has passed dielectric withstand voltage testing at 1140 V. The working voltage designated for the insulation is 70V d.c. The maximum allowable voltage across the array must be determined in the end product application.

Eye Safety

Table 5: Eye Safety Risk Group (RG) Classifications

Part Number	Drive Current (mA)	CCT ⁵			
		2700K/3000K	4000K ²	5000K ³	6500K ⁴
BXRE-xxx100x-A-8x	355	RG1	RG1	RG1	RG1
	495	RG1	RG1	RG1	RG2
	655	RG1	RG1	RG2	RG2
	960	RG1	RG2	RG2	RG2
BXRE-xxx100x-B-8x	355	RG1	RG1	RG1	RG1
	500	RG1	RG1	RG1	RG2
BXRE-xxx100x-C-8x	395	RG1	RG1	RG1	RG1
	550	RG1	RG1	RG1	RG2
	730	RG1	RG1	RG2	RG2
	1000	RG1	RG2	RG2	RG2

Notes for Table 5:

1. Eye safety classification for the use of Bridgelux V Series LED arrays is in accordance with specification IEC/TR 62778: Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires.
2. For products classified as RG2 at 4000K, Ethr= 1980 lx.
3. For products classified as RG2 at 5000K Ethr= 1530 lx.
4. For products classified as RG2 at 6500K, Ethr= 1170 lx.
5. Please contact your Bridgelux sales representative for Ethr values at specific drive currents and CCTs not listed.

Absolute Maximum Ratings

Table 6: Maximum Ratings

Parameter	Maximum Rating		
LED Junction Temperature (T_j)	150°C		
Storage Temperature	-40°C to +105°C		
Operating Case Temperature ¹ (T_c)	105°C		
Soldering Temperature ²	300°C or lower for a maximum of 6 seconds		
	BXRE-xxx100x-A-8x	BXRE-xxx100x-B-8x	BXRE-xxx100x-C-8x
Maximum Drive Current ³	960mA	500mA	1000mA
Maximum Peak Pulsed Drive Current ⁴	1120mA	560mA	1120mA
Maximum Reverse Voltage ⁵	-60V	-60V	-55V

Notes for Table 6:

1. For IEC 62717 requirement, please consult your Bridgelux sales representative.
2. Refer to Bridgelux Application Note AN101: Handling and Assembly of Bridgelux V Series LED Arrays.
3. Arrays may be driven at higher currents however lumen maintenance may be reduced, and warranty will not apply.
4. Bridgelux recommends a maximum duty cycle of 10% and pulse width of 20 ms when operating LED Arrays at maximum peak pulsed current specified. Maximum peak pulsed currents indicate values where LED Arrays can be driven without catastrophic failures.
5. Light emitting diodes are not designed to be driven in reverse voltage and will not produce light under this condition. Maximum rating provided for reference only.

Performance Curves

Figure 1: V10A Drive Current vs. Voltage

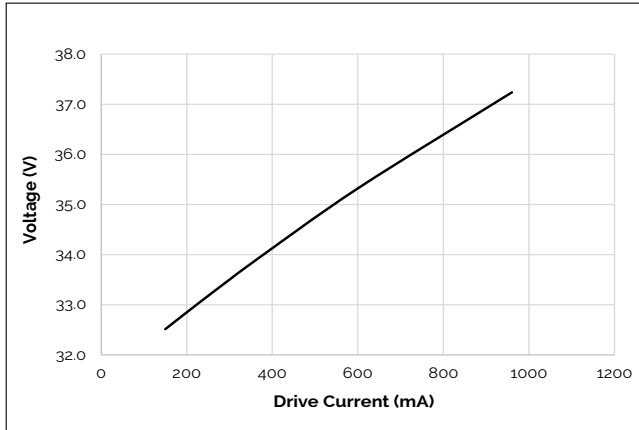


Figure 2: V10B Drive Current vs. Voltage

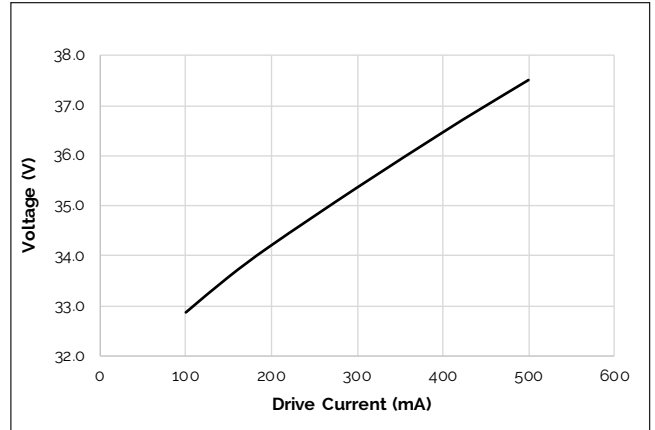


Figure 3: V10C Drive Current vs. Voltage

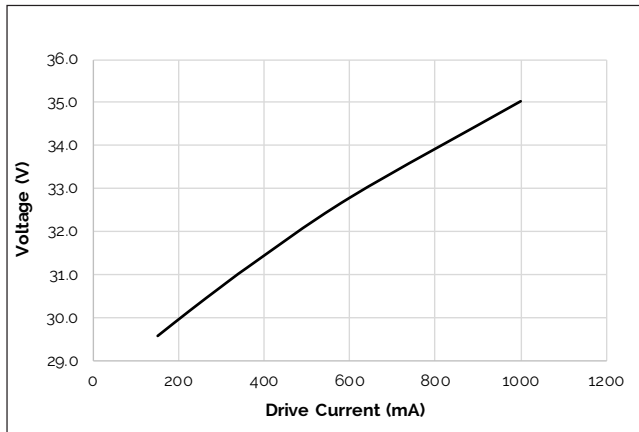


Figure 4: V10A Typical Relative Flux vs. Current

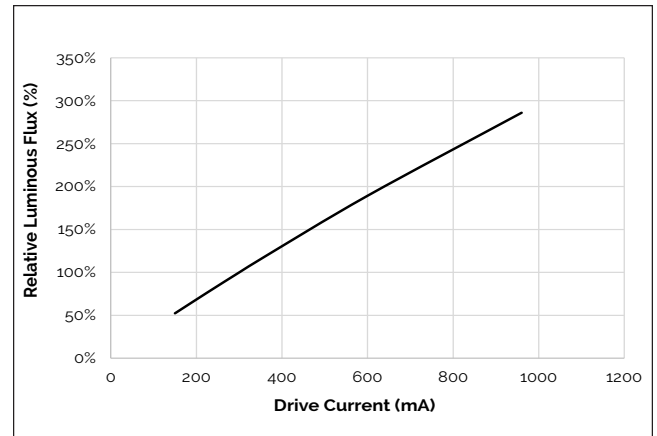


Figure 5: V10B Typical Relative Flux vs. Current

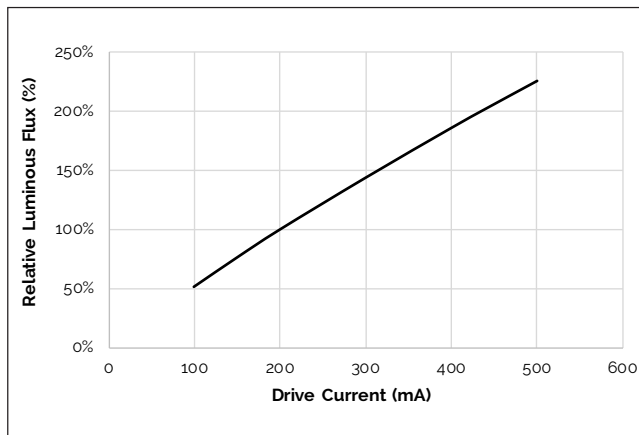
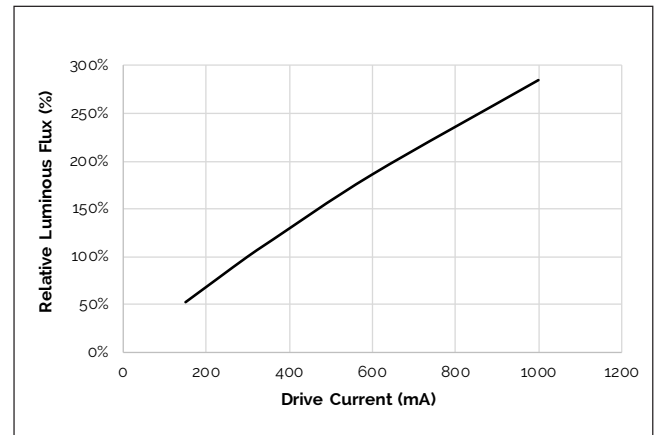


Figure 6: V10C Typical Relative Flux vs. Current



Notes for Figures 1-6:

1. Bridgelux does not recommend driving high power LEDs at low currents. Doing so may produce unpredictable results. Pulse width modulation (PWM) is recommended for dimming effects.
2. Products tested under pulsed condition (10ms pulse width) at nominal test current where T_j (junction temperature) = T_c (case temperature) = 25°C.

Performance Curves

Figure 7: Typical DC Flux vs. Case Temperature

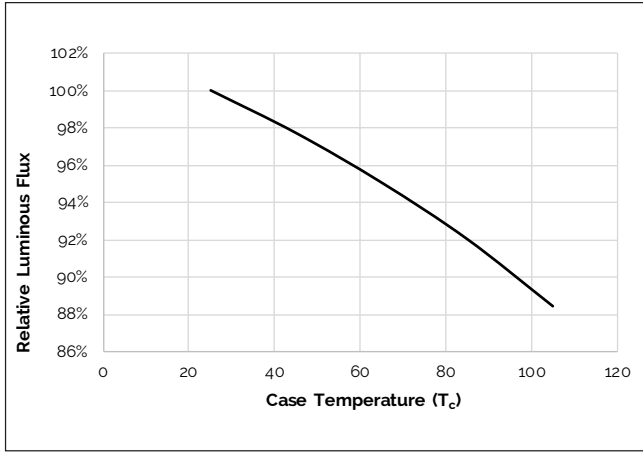


Figure 8: Typical DC ccy Shift vs. Case Temperature

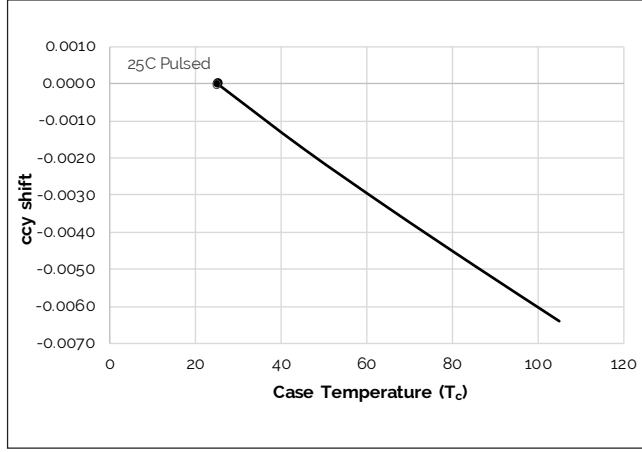
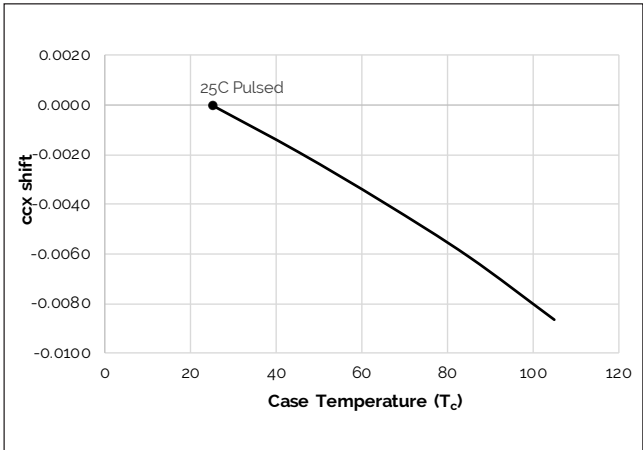


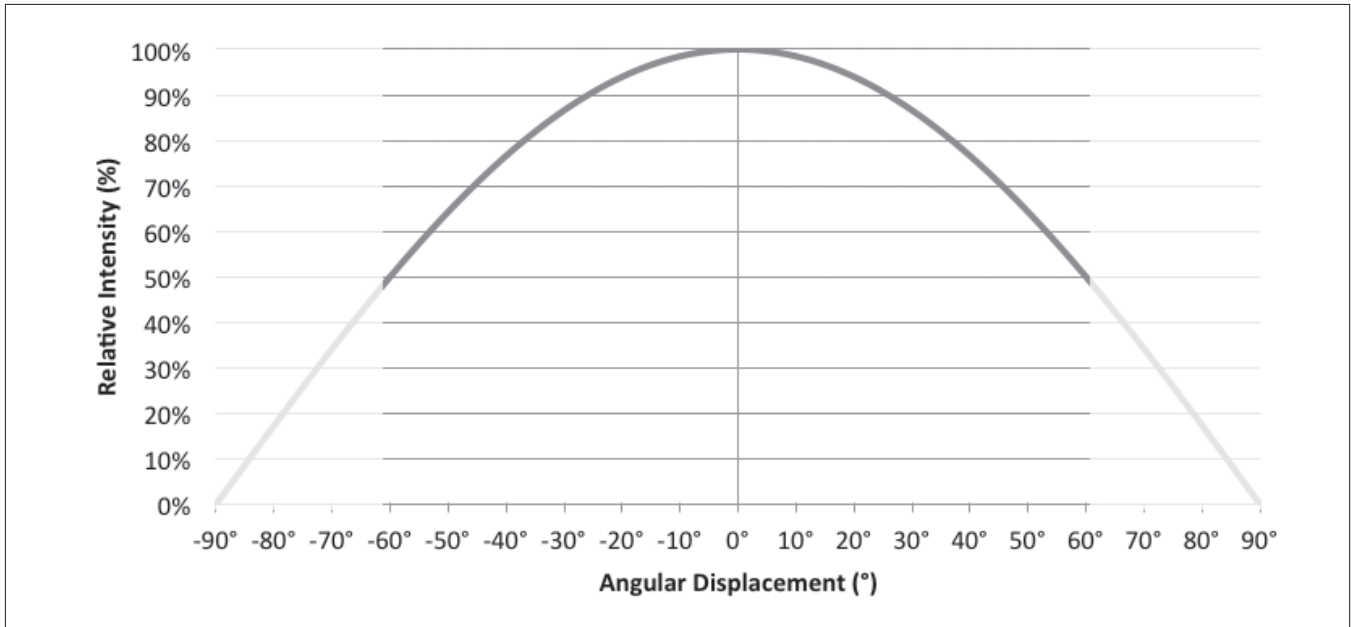
Figure 9: Typical DC ccx Shift vs. Case Temperature



Note for Figures 7-9:
1. Characteristics shown for warm White.

Typical Radiation Pattern

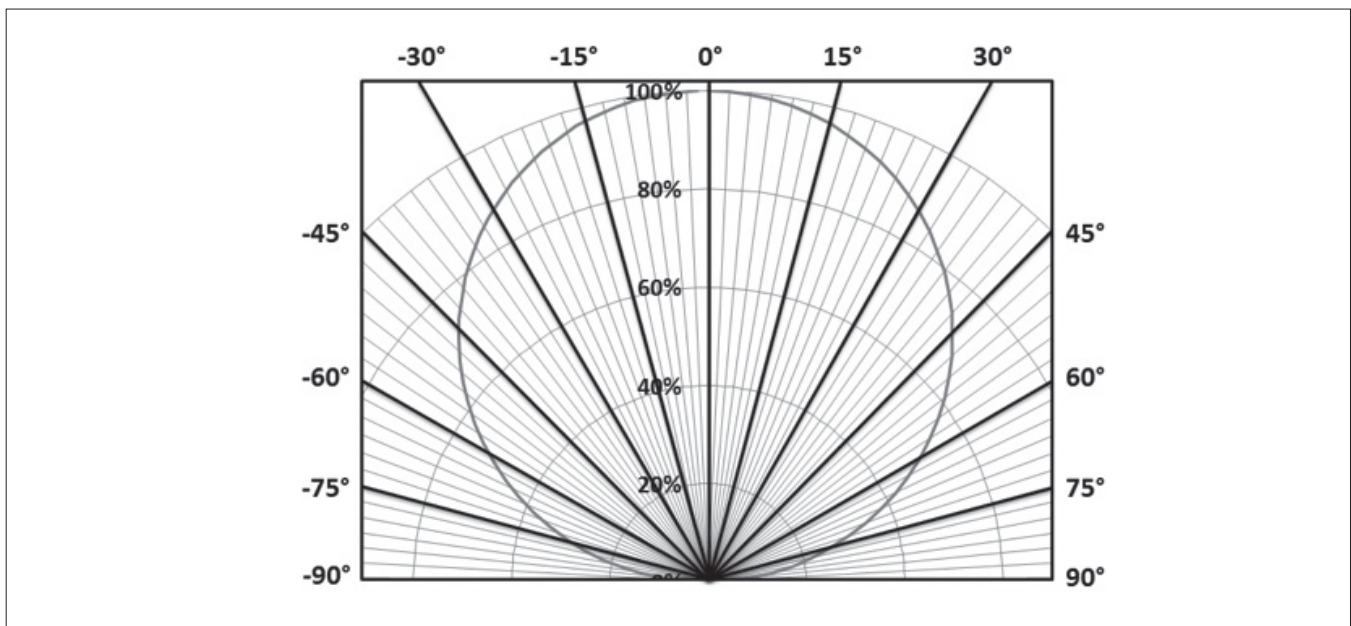
Figure 10: Typical Spatial Radiation Pattern



Notes for Figure 10:

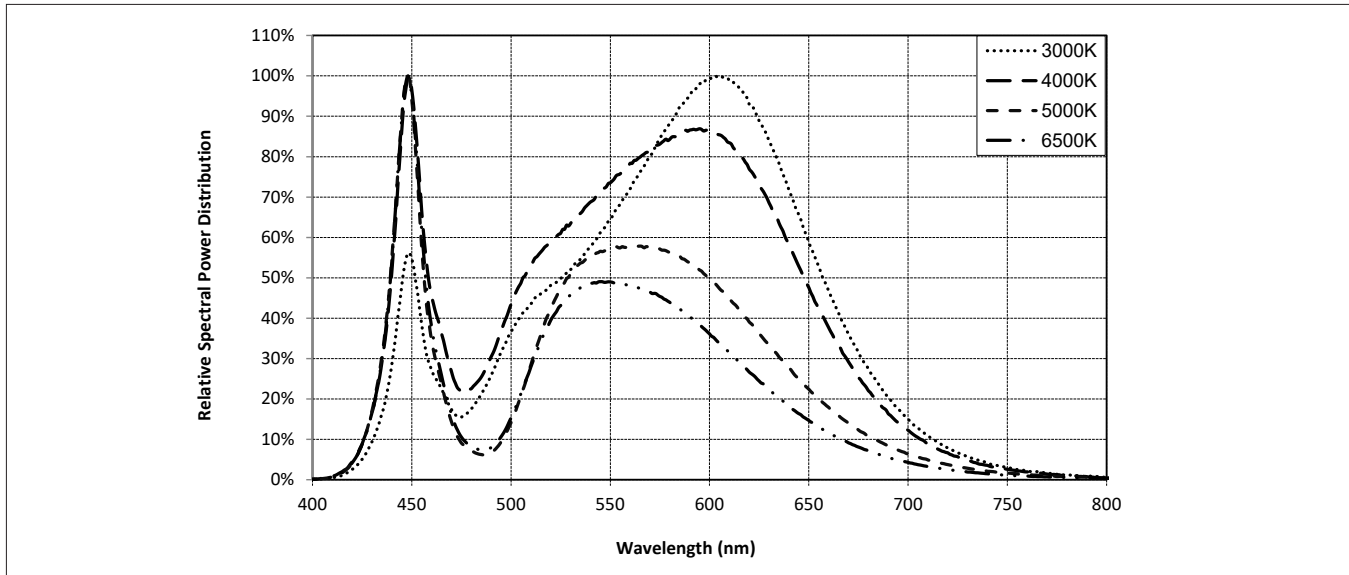
1. Typical viewing angle is 120°.
2. The viewing angle is defined as the off axis angle from the centerline where intensity is ½ of the peak value.

Figure 11: Typical Polar Radiation Pattern



Typical Color Spectrum

Figure 12: Typical Color Spectrum

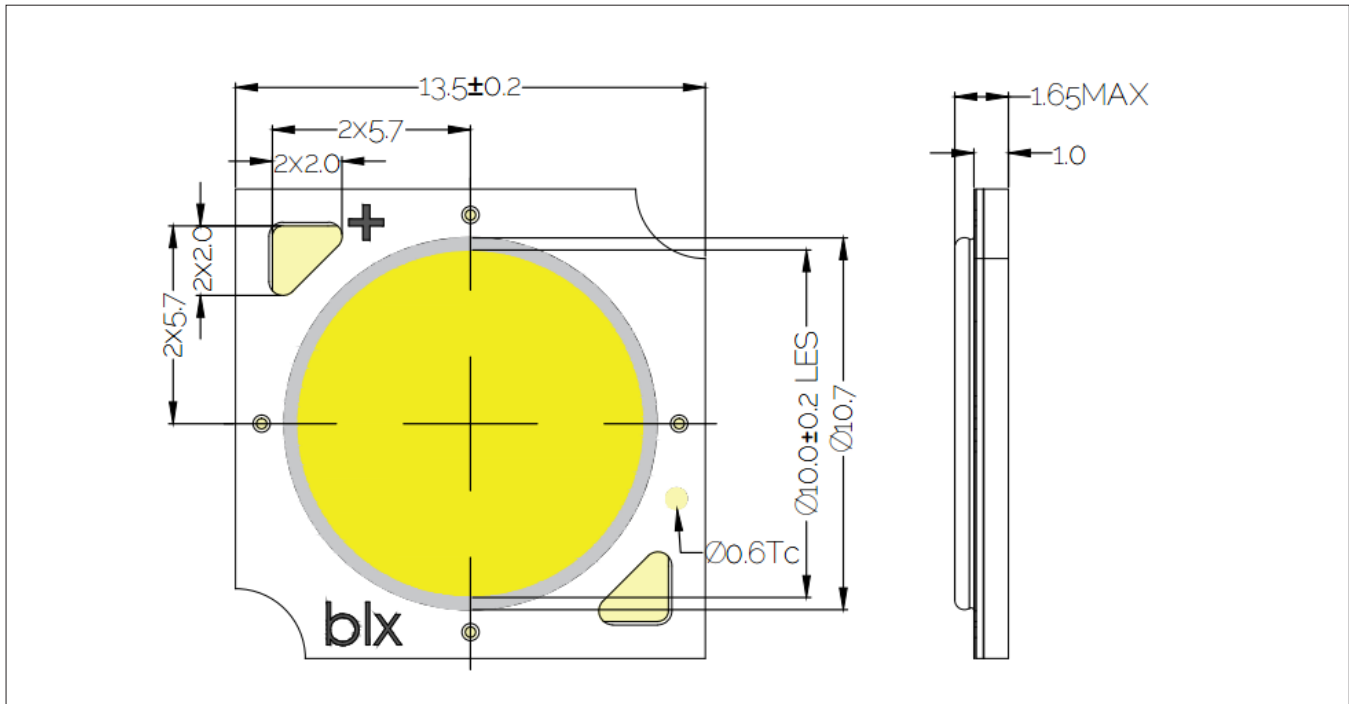


Notes for Figure 12:

1. Color spectra measured at nominal current for $T_j = T_c = 25^\circ\text{C}$.
2. Color spectra shown is 3000K and 80 CRI.
3. Color spectra shown is 4000K and 80 CRI.
4. Color spectra shown is 5000K and 70 CRI.
4. Color spectra shown is 6500K and 70 CRI.

Mechanical Dimensions

Figure 13 Drawing for V10 LED Array

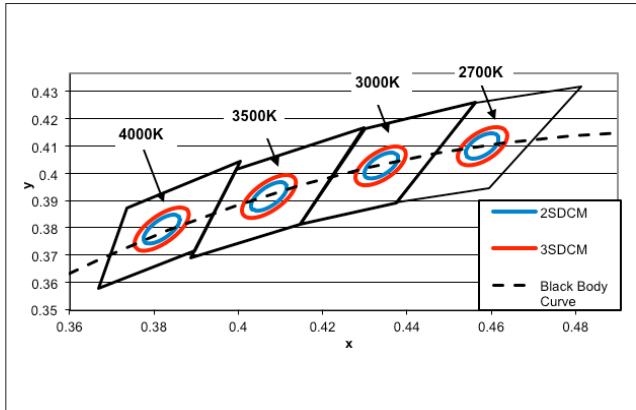


Notes for Figure 13:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.
3. Unless otherwise specified, tolerances are ± 0.1 mm.
4. Solder pad labeled "+" denotes positive contact.
5. Refer to Application Notes AN101 for product handling, mounting and heat sink recommendations.
6. The optical center of the LED Array is nominally defined by the mechanical center of the array to a tolerance of ± 0.2 mm.
7. Bridgelux maintains a flatness of 0.10 mm across the mounting surface of the array.

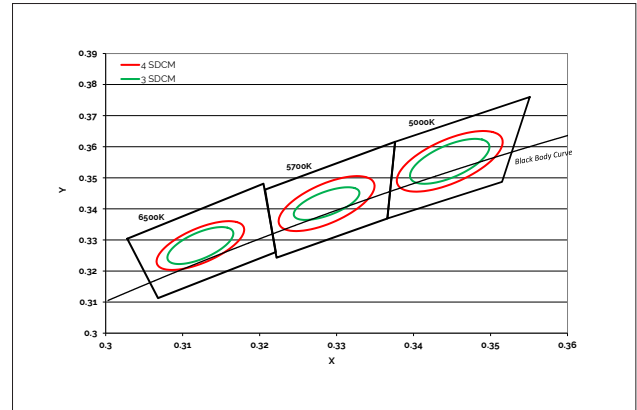
Color Binning Information

Figure 14: Warm and Neutral White Test Bins in xy Color Space



Note: Pulsed Test Conditions, $T_c = 25^\circ\text{C}$

Figure 15: Cool White Test Bins in xy Color Space



Note: Pulsed Test Conditions, $T_c = 25^\circ\text{C}$

Table 7: Warm and Neutral White xy Bin Coordinates and Associated Typical CCT

Bin Code	2700K	3000K	3500K	4000K
ANSI Bin (for reference only)	(2580K - 2870K)	(2870K - 3220K)	(3220K - 3710K)	(3710K - 4260K)
83 (3 SDCM)	(2651K - 2794K)	(2968K - 3136K)	(3369K - 3586K)	(3851K - 4130K)
82 (2 SDCM)	(2674K - 2769K)	(2995K - 3107K)	(3404K - 3548K)	(3895K - 4081K)
Center Point (x,y)	(0.4578, 0.4101)	(0.4338, 0.403)	(0.4073, 0.3917)	(0.3818, 0.3797)

Table 8: Cool White xy Bin Coordinates and Associated Typical CCT (product is hot targeted to $T_c = 85^\circ\text{C}$)

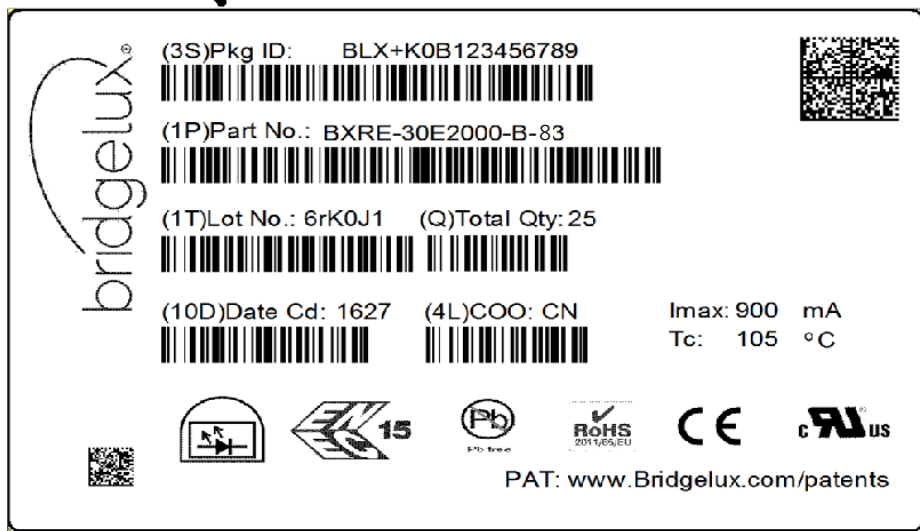
Bin Code	5000K	5700K	6500K
ANSI Bin (for reference only)	(4745K - 5311K)	(5312K - 6022K)	(6022K - 7042K)
84 (4 SDCM)	(4801K - 5282K)	(5395K - 5970K)	(6200K - 6910K)
83 (3 SDCM)	(4835K - 5215K)	(5460K - 5891K)	(6279K - 6811K)
Center Point (x,y)	(0.3447, 0.3553)	(0.3287, 0.3417)	(0.3123, 0.3282)

Note for Tables 7-8:

1. Bridgelux maintains a tolerance of +/- 0.007 on x and y color coordinates in the CIE 1931 color Space.

Packaging and Labeling

Figure 16: V10 Packaging Tube



Box Label

Commercial Invoice
and Packing list



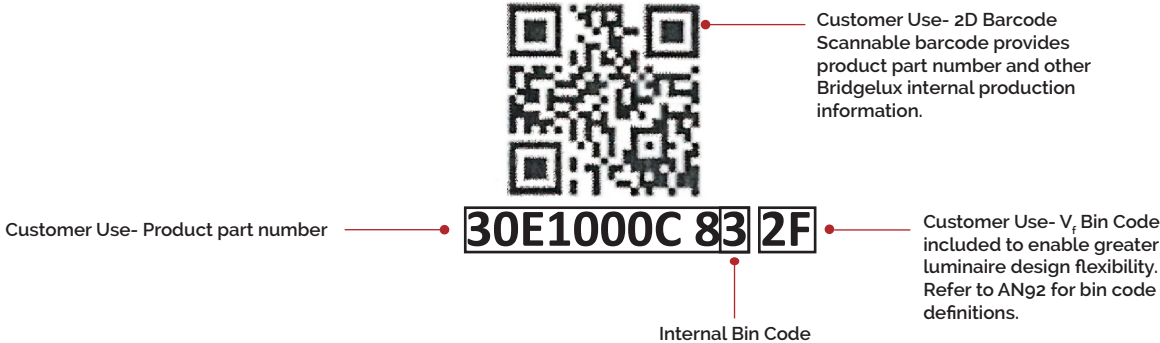
Notes for Figure 16:

1. Each tube holds 30 V10 COB arrays.
2. One tube is sealed in an anti-static bag. Four bags are placed in a shipping box. Depending on quantities ordered, a bigger shipping box, containing four boxes may be used to ship products.
3. Each bag and box is to be labeled as shown above.
4. Dimensions for each tube are 8.3 (W) x 15.4 (H) x 430 (L). Dimensions for the anti-static bag are 75 (W) x 615 (L) x 3.1 (T) mm. Dimensions for the shipping box are 58.7 x 13.3 x 7.9 cm

Packaging and Labeling

Figure 17: Gen. 8 Product Labeling

Bridgelux COB arrays have laser markings on the back side of the substrate to help with product identification. In addition to the product identification markings, Bridgelux COB arrays also contain markings for internal Bridgelux manufacturing use only. The image below shows which markings are for customer use and which ones are for Bridgelux internal use only. The Bridgelux internal manufacturing markings are subject to change without notice, however these will not impact the form, function or performance of the COB array.



Design Resources

Application Notes

Bridgelux has developed a comprehensive set of application notes and design resources to assist customers in successfully designing with the V Series product family of LED array products. For all available application notes visit www.bridgelux.com.

Optical Source Models

Optical source models and ray set files are available for all Bridgelux products. For a list of available formats, visit www.bridgelux.com.

3D CAD Models

Three dimensional CAD models depicting the product outline of all Bridgelux V Series LED arrays are available in both IGS and STEP formats. Please contact your Bridgelux sales representative for assistance.

LM80

LM80 testing has been completed and the LM80 report is now available. Please contact your Bridgelux sales representative for LM-80 report.

Precautions

CAUTION: CHEMICAL EXPOSURE HAZARD

Exposure to some chemicals commonly used in luminaire manufacturing and assembly can cause damage to the LED array. Please consult Bridgelux Application Note AN101 for additional information.

CAUTION: RISK OF BURN

Do not touch the V Series LED array during operation. Allow the array to cool for a sufficient period of time before handling. The V Series LED array may reach elevated temperatures such that could burn skin when touched.

CAUTION

CONTACT WITH LIGHT EMITTING SURFACE (LES)

Avoid any contact with the LES. Do not touch the LES of the LED array or apply stress to the LES (yellow phosphor resin area). Contact may cause damage to the LED array.

Optics and reflectors must not be mounted in contact with the LES (yellow phosphor resin area).

Disclaimers

MINOR PRODUCT CHANGE POLICY

The rigorous qualification testing on products offered by Bridgelux provides performance assurance. Slight cosmetic changes that do not affect form, fit, or function may occur as Bridgelux continues product optimization.

STANDARD TEST CONDITIONS

Unless otherwise stated, array testing is performed at the nominal drive current.

About Bridgelux: Bridging Light and Life™

At Bridgelux, we help companies, industries and people experience the power and possibility of light. Since 2002, we've designed LED solutions that are high performing, energy efficient, cost effective and easy to integrate. Our focus is on light's impact on human behavior, delivering products that create better environments, experiences and returns—both experiential and financial. And our patented technology drives new platforms for commercial and industrial luminaires.

For more information about the company, please visit
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Bridgelux Gen 8 V10 Array Series Product Data Sheet DS412 Rev. B (06/2021)